

App. Ser. No. 10/813,304

Amendment dated Jan. 20, 2007

Reply to final Office action of Nov. 17, 2007

Docket No. AB-1703 US
(Ref. No. OPP030744US)RECEIVED
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REMARKS/ARGUMENTS

The following remarks are in reply to the final Office action of 11/17/2006: In light of this reply, reconsideration of this application is respectfully requested under 35 U.S.C. §1.116.

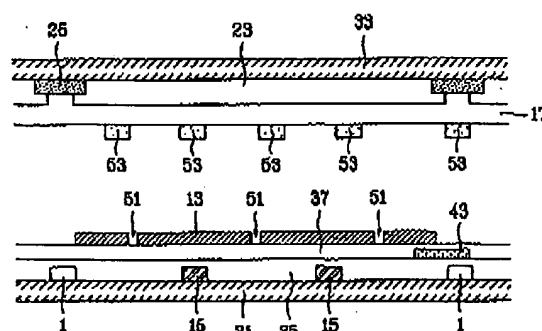
Twenty-seven claims are pending in this application. Of these, 12 claims (7-13, 18 and 24-27) were previously withdrawn from consideration. In the above amendment, two claims (1 and 14) were amended as to matters of form and none was cancelled or added. Accordingly, reconsideration of 15 claims (1-6, 14-17 and 19-23) is respectfully requested in light of this reply.

In section 2 of the final Office action, the Examiner rejected claims 1-3, 14 and 21-23 under 35 U.S.C. 103(a) as being unpatentable over United States Patent 6,671,020 B2 (to Kim et al.)(filed: Dec. 20, 2000) in view of United States Patent 6,573,965 B1 (to Liu et al.), stating, in pertinent part,

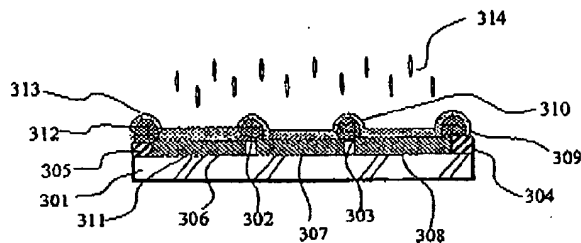
"As to claims 1 and 14, Kim teaches ... a first protrusion (dielectric structure [53]) is formed on a counter substrate opposing a pixel electrode (13) which is formed on the passivation film (37). ... Kim does not appear to explicitly specify that the first protrusion is formed on the pixel electrode side. Liu teaches ... a multi-domain wide viewing angle liquid crystal display having slits on electrodes and bumps above the slits wherein (See Figure 3) dielectric bumps (Applicant's protrusions) are formed above a pixel electrode wherein further the pixel electrode has slits (bumps = 309-312) and slits (302 and 303). The bumps are also opposite a bus line ([304, 305])." (Emphasis added.)

In light of the above amendment to claims 1 and 14 and the remarks that follow, reconsideration of this rejection is respectfully requested.

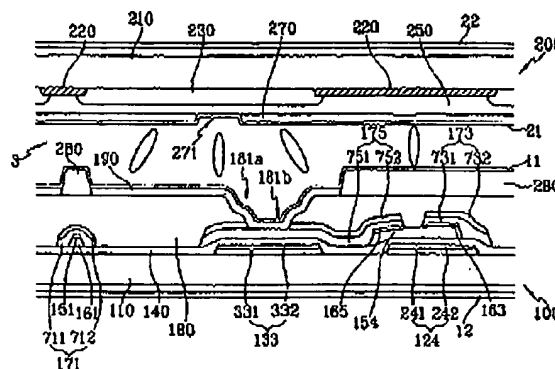
Independent claims 1 and 14 include the following respective distinguishing limitations:



Kim et al.



Liu et al.



This Invention

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Claim 1: "... a first protrusion [280a] formed directly on the first passivation layer [180] and disposed opposite the data line [171]";

Claim 14: "... a pixel electrode [190] formed directly on the first passivation layer ..., the pixel electrode having a cutout; and,

a protrusion formed directly on the first passivation layer and disposed in the cutout" (Emphasis added.)

With respect to the first substrate illustrated above, Kim et al. ('020) includes the following description:

"The common auxiliary electrode 15 is formed around and/or in the pixel regions in a same layer as the gate lines [1] to distort electric field." ('020, col. 5, lines 52-55, emphasis added).

"A plurality of dielectric structures 53 are formed on the second substrate in different forms. The dielectric structures 53 control the electric field together with the electric field induction windows 51. (Id., col. 6, lines 9-12, emphasis added.)

As shown in FIG. 8A, the light-shielding layer 25 is formed on the second substrate 33, and the color filter layer 23 is formed [on the color filter layer]. The common electrode 17 is formed ... on the color filter layer 23 A photoresist material is deposited on the common electrode 17 and patterned by photolithography to form dielectric structures 53 having various shapes." (Id., col. 8, lines 12-21, emphasis added.)

"In the liquid crystal display device according to the second to seventh embodiments of the present invention (FIGS. 9-14), a pair of neighboring pixels, electric field induction windows 51 and dielectric structures 53 are shown. The electric field induction windows 51 are patterned in zigzag forms for dividing one pixel into three regions, and the dielectric structures 53 are formed within three pixel regions in parallel to the electric field induction windows." (Id., col. 9, lines 33-40, emphasis added.)

"In the multi-domain liquid crystal display device of the present invention, the dielectric structure 53 is formed on the pixel electrode and/or the common auxiliary electrode. Alternatively, the pixel electrode, the passivation film, the gate insulating film, the color filter layer, an overcoat layer, and/or the common electrode are patterned to form the electric field induction window 51 in the shape of a hole or slit. ... Also, the electric field induction window 51 or the dielectric structure 53 may be formed on either the first substrate or the second substrate, independently or on both substrates." (Id., col. 9, lines 63-67, col. 10, lines 1-9, emphasis added.)

Thus, although Kim et al. teach "data lines 3," a "passivation layer 37," "dielectric structures 53," "pixel electrodes 13" and "windows 51 [in the pixel electrode] in the shape of a slit," there is no teaching or suggestion in Kim et al. of the limitation in claim 1 for "a first protrusion formed directly on the first passivation layer and disposed opposite the data line," or of the limitation in claim 14 for "a protrusion formed directly on the first passivation layer and disposed in [a] cutout [of a pixel electrode also formed directly on the passivation layer], as illustrated in the third substrate illustrated above of this invention.

With respect to the second substrate illustrated above, Liu et al. ('965) includes the following description:

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"Referring to FIG. 3, two slits 302 and 303 of a single pixel are formed in a pixel electrode layer on the TFT substrate 301. The pixel electrode is divided into three sections 306-308 by the slits 302 and 303. Bumps 309 to 312 are formed above the slits 302 and 303 and bus lines 304 and 305 respectively. The bumps 309 to 312 are covered with an alignment film layer 313." (Emphasis added.)

Thus, although Liu et al. teach "slits 302 and 303 [in a pixel electrode]," and "bumps 309-312 formed above the slits and bus lines 304 and 305," Liu et al. do not teach or suggest a "first passivation layer," much less the limitation of claim 1 of, "a first protrusion formed directly on the first passivation layer and disposed opposite the data line," or the limitation in claim 14 above of "a protrusion formed directly on the first passivation layer and disposed in [a] cutout [of a pixel electrode formed directly on the passivation layer], as discussed and illustrated above. Rather, Liu et al., like the Kim et al. reference, teach that the bumps are formed on the upper surface of the pixel electrode. Additionally, although Liu et al. describe two of the "bumps 309 and 312" as being "formed above ... the bus lines 304 and 305," there is no disclosure of whether the "bus lines" comprise "gate lines," "data lines," "storage electrodes," "common auxiliary electrodes" or any other structure of the pixel, and accordingly, it is respectfully submitted that the teaching of claim 1 of "a first protrusion ... disposed opposite the data line" is not met by either Kim et al. or Liu et al.

In light of the foregoing lack of teachings in either Kim et al. and Liu et al. with respect to independent claims 1 and 14, it is respectfully submitted that the Examiner is engaging in a "piecemeal" analysis, and the Examiner's assertion of the "obviousness" of their purported combination, or that such a combination would indeed even function, is not based upon any teaching that is to be found in either reference, but rather, exclusively upon the Applicant's teachings in the instant application. However in accordance with the teachings of *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991), this is impermissible – "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. Accordingly, it is respectfully submitted that the Examiner's rejection of at least independent claims 1 and 14 based on such impermissible grounds is untenable, and upon reconsideration, should be withdrawn.

In section 3 of the Office action, claims 4-6 and 15-17 were rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 6,671,020 B2 (to Kim et al.)(filed: Dec.

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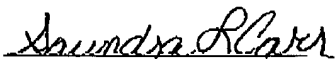
20, 2000) in view of United States Patent 6,573,965 B1 (to Liu et al.) and further in view of United States Patent Application 2002/0163604 A1 (to Kim et al.)(Kim II).

In section 4, claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 6,671,020 B2 (to Kim et al.)(filed: Dec. 20, 2000) in view of United States Patent 6,573,965 B1 (to Liu et al.) and further in view of United States Patent 6,897,918 B1 (to Nonaka et al.).

However, a careful review both Kim II and Nonaka et al. reveals that neither reference, whether taken individually or together, provides the deficiencies in teachings of the Kim et al. and Liu et al. references discussed above with respect to independent claims 1 and 14, from which claims 2-6, 15-17 and 19-23 respectively depend. Accordingly, it is respectfully submitted that claims 2-6, 15-17 and 19-23 are, by virtue of such dependency, patentably distinguishable over these latter references.

In light of the above reply, it is respectfully that claims 1-6, 14-17 and 19-23 are allowable over the art of record. Applicant therefore respectfully requests that a timely Notice of Allowance be issued in this case.

If there are any questions regarding this Reply, the Examiner is invited to contact the undersigned at the number below.

Certification of Facsimile Transmission	
I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.	
	Feb. 20, 2007
Saundra L. Carr	Date of Signature

Respectfully submitted,



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